THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte YASUHIRO FUJIMORI

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Appeal No. 1996-2822
Application 08/153,916[1]

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ON BRIEF

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Before KRASS, FLEMING and HECKER, ***Administrative Patent Judges***.

FLEMING, ***Administrative Patent Judge***.

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[1] Application for patent filed November 17, 1993.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 23, all of the claims pending in the present application.

The invention relates to the detection of image movement vectors representing movements of objects within images represented by image signals. On page 2 of the specification, Appellant discloses that the problem of image movement vector detection is the presence of vibration components. In other words, apparent object movement within an image can actually be caused by camera vibration and the apparent movement can be mistaken in the detection process for actual movement of the object. This results in erroneous image movement vectors that are produced as a result of image vibration.

Appellant discloses on page 5 of the specification that Figure 1 is a block diagram of a video camera in accor-

dance with Appellant's invention and Figure 2 is a block diagram of an image movement vector detector of Figure 1's embodiment. On page 9 of the specification, Appellant discloses that the image movement vector detector 6 includes a vibration vector detecting circuit 10 which is provided with digitized image data at input 12 and

serves to detect a vibration vector from the image data resulting from vibration of the video camera. The detected vibration vector is supplied at an output 14 of the circuit 10. The image movement vector detector 6 also includes an image movement vector detection circuit 16 which receives both the image data from the input 12 as well as the vibration vector from the output 14 of the circuit 10. The image movement vector detection circuit serves to detect an image movement vector representing the movement of an object within the image based on both the image data and the vibration vector. The image movement vector detection circuit 16 supplies the image movement vector at an output 20 from which the image

movement vector is supplied to an input 4a of the system controller 4 of Figure 1.

Independent claim 1 is reproduced as follows:

1. An image movement vector detection apparatus for detecting an image movement vector from an image signal produced by a video camera, the image movement vector representing movement of an object within an image represented by the image signal, comprising:

vibration vector detecting means for detecting a vibration vector from the image signal resulting from vibration of the video camera; and

image movement vector detecting means for detecting an image movement vector representing movement of an object within an image represented by the image signal based on both the image signal and the vibration vector.

The Examiner relies on the following references:

Murphy	3,562,423	Feb. 9, 1971
Kanno et al (Kanno)	4,933,757	June 12, 1990
Kondo et al. (Kondo)	5,198,896	Mar. 30, 1993
Egusa et al. (Egusa)	5,237,405	Aug. 17, 1993
Miyatake et al. (Miyatake)	5,267,034 (filed Feb. 25, 1992)	Nov. 30, 1993

In the final rejection, the Examiner rejects claims 1 through 5, 7 and 14 through 17 under 35 U.S.C. § 102 as being anticipated by Kondo. Also in the final rejection, the

Examiner rejects claims 8 and 19 through 23 under 35 U.S.C. § 103 over Kondo and claims 6, 9 through 13 and 18 under 35 U.S.C. § 103 over Kondo in view of Egusa. In the Examiner's answer, the Examiner only maintains that claims 6 and 9 through 13 are rejected under 35 U.S.C. § 103 as being unpatentable over Kondo in view of Egusa.

The Examiner provides several new grounds of rejection in the Examiner's answer. In particular, claims 1 through 5, 7 and 14 through 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kondo. Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kondo in view of Miyatake. Claim 18 is rejected under 35 U.S.C. § 103 as being unpatentable over Kondo in view of Egusa. Claims 19 through 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kondo in view of Kanno. Claim 23 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kondo in view of Murphy.

Rather that reiterate the arguments of Appellant and the Examiner, reference is made to the briefs[2] and answers[3] for the respective details thereof.

OPINION

We will not sustain the rejection of claims 1 through 23 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6

[2] Appellant filed an appeal brief on May 4, 1995. Appellant filed a reply brief on September 26, 1995 in response to the new grounds of rejection.

[3] The Examiner filed an Examiner's answer on July 26, 1995 and a supplemental Examiner's answer on February 1, 1996.

(Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.***, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), ***cert. denied***, 117 S.Ct. 80 (1996) ***citing W. L. Gore & Assoc., Inc. v. Garlock, Inc.***, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), ***cert. denied,*** 469 U.S. 851 (1984).

Claims 1 through 5, 7 and 14 through 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kondo. In the Examiner's answer, the Examiner states in the new ground of rejection on page 9 that Kondo does not disclose an image move- ment vector detecting means as recited in Appellant's claim 1.

The Examiner argues that Kondo expressly suggests that the image movement vectors can be detected since vectors clearly including those caused by motion of an image within the image plane are shown in Figure 2B and since it is recognized that movement vectors representing both an image and vibration of the camera are present within the image plane. The Examiner

further argues that Kondo, in column 1, lines 18 through 24, discloses that it is known to accurately detect both vibration and image movement from an image signal and further knows how to track a movement of a specific image in a video camera using this image.

On page 2 of the reply brief, Appellant respectfully submits that the Examiner has seriously misconstrued Kondo. Appellant argues that the cited portions of the reference, in fact, suggest nothing more than the possibility that some motion vectors obtained from an image may represent the motion of an object within the image, but they do not suggest that such vectors can be identified as vectors which represent the movement of an object within an image. Appellant further argues on page 4 that Figure 2B only serves as a means of illustrating how the circuit 16 of Kondo decides which areas of the image contain movement vectors representing image vibrations and contain no suggestion of how to detect vectors representing the movement of an object. Appellant further argues on pages 5 through 7 of the reply brief that the Examiner has not provided any evidence that one of ordinary

skill in the art would know how to modify the Kondo reference in order to obtain an image movement vector detecting means for detecting an image movement vector representing movement of an object within an image represented by an image signal based on both the image signal and the vibration vector as recited in Appellant's claim 1.

In response, the Examiner argues in the supplemental answer that Kondo in column 1, lines 13 through 24, discloses to those skilled in the art the know-how to detect image movement vectors representing movement of objects within an image. The Examiner further argues that it is clear from this discussion in Kondo that those skilled in the art already know how to detect various kinds of motion including detecting and tracing the motions of specific images. The Examiner argues that those skilled in the art do know how to detect image movement vectors representing movement of an object within an image and this fact is documented by such references as Hanna (U.S. Patent No. 5,259,040).

We agree with the Examiner that Kondo fails to teach an "image movement vector detecting means for detecting an

image movement vector representing movement of an object within an image represented by the image signal based on both the image signal and the vibration vector" as recited in Appellant's claim 1. In fact, we note that Kondo fails to teach "[a]n image movement vector detection apparatus for detecting an image movement vector from an image signal produced by a video camera, the image movement vector representing movement of an object within an image represented by the image signal" as claimed in

Appellant's claim 1. Upon our review of Kondo, we find that Kondo is concerned with determining a vibration of the camera. In column 5, lines 7 through 45, Kondo discloses a vibration isolation apparatus for preventing a frame vibration of an image signal. In particular, the output terminal 22 outputs a signal representing an image vibration movement amount. We note that Kondo is not concerned with detecting the movement of an object within an image.

Kondo does disclose that it is known in the prior art apparatuses for correcting vibration of a video camera, detecting panning of a video camera, or detecting and tracing the movement of specific images in a video camera. However, Kondo does not disclose that it is known in the prior art apparatus that determines image movement vectors representing the movement of an object within an image comprising a vibration vector detection means and an image movement vector detection means for detecting image movement vectors representing movement of the object within an image represented by the image signal based upon both the image signal and the vibration vector.

In the supplemental answer, the Examiner wishes to point us to another reference, Hanna, as evidence that it is known in the prior art to detect image movement vectors representing the movement of an object within an image. However, we only have the rejection of these claims based upon the single reference Kondo before us. Our reviewing court has

stated that where a reference is relied on to support a rejection, whether or not in a minor capacity, there would appear to be no excuse for not positively including the reference in the statement of the rejection. ***In re Hoch***, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

Therefore, we find that the Examiner in relying only on Kondo has failed to show that the prior art teaches an image movement vector detection apparatus for detecting an image movement vector from an image signal produced by a video camera comprising vibration vector detecting means and an image movement vector detecting means for detecting an image movement vector representing movement of an object within an image represented by the image signal based on both the image signal and the vibration vector as recited in Appellant's claim 1.

We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this

evidence in order to establish a ***prima facie*** case. ***In re Knapp-Monarch Co.***, 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); ***In re Cofer***, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

We note that Appellant's independent claim 19 also recites a vibration vector detecting means for detecting a vibration vector and an image movement vector detecting means for detecting an image movement vector representing movement of an object within an image represented by the image signal based upon both the image signal and the vibration vector. We further note that Appellant's only remaining independent claim, claim 23, recites a video camera for tracking a moving object image comprising a vibration vector detecting means for detecting a vibration vector and an image movement vector detecting means for detecting an image movement vector representing the movement of a moving object within an image represented by the image signal based on both the image signal and the vibration vector. We note that the Examiner relies on Kondo for the teaching of an image movement vector detecting means for detecting an image movement vector based on both the

image signal and the vibration vector. As we have discussed in great detail above, we have found that Kondo fails to teach or suggest an image movement vector detecting means for detecting an image movement vector based on both the image signal and the vibration vector.

We have not sustained the rejection of claims 1 through 23 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)	
MICHAEL R. FLEMING Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
STUART N. HECKER Administrative Patent Judge	)	

MRF:psb

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